



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/603,980	06/27/2000	Dimitri Kanevsky	13317(YOR9-2000-0019US1)	4672

7590

02/14/2003

Richard L Catania Esq
Scully Scott Murphy and Presser
400 Garden City Plaza
Garden City, NY 11530

EXAMINER

LESPERANCE, JEAN E

ART UNIT

PAPER NUMBER

2674

DATE MAILED: 02/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/603,980

Applicant(s)

KANEVSKY ET AL.

Examiner

Jean E Lesperance

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2002.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 7-8, 10-13, 17-20 are rejected under 35 U.S.C. 102 (b) as being unpatentable over U.S. Patent # 5,767,842 ("Korth") in view of U.S. Patent # 6,407,679 ("Evans et al.").

As for claim 1, Korth teaches a camera Fi.1 (2) corresponding to one or several cameras, a computer side of the interface there need only be a way to detect the fingertip motions of the keyboard operator (column 4, lines 27-29) corresponding to one or more memories with CPU connected to the cameras, and processes running in the CPU that associates gesture movements with typing and window may appear only during the input of data (column 4, lines 54-55) corresponding to the produce gesture associated textual output. Accordingly, Korth teaches all the claimed limitations as recited in claim 1 with the exception of providing a classify groups of gestures associate each of the classes with one of the keys in the virtual keyboard.

However, Evans et al. teach (Fig.1), a glove usable in a virtual environment where each finger has a group of letters associate with one of the keys in the virtual keyboard (column 8, lines 13-30) corresponding to a classify groups of gestures associate each of the classes with one of the keys in the virtual keyboard.

It would have been obvious to utilize the finger labeled as taught by Evans et al. in the user command system disclosed by Korth because this would allow the user command to match each key sequence with one or more words in the dictionary.

As for claims 2, 11, and 18-19, Korth teaches a keyboard that should provide the user with the key information and feedback. Tactile feedback of virtual keyboard is given by the contact of the finger-tip with the working plate (column 7, lines 14-17) corresponding to a feedback is provided to the user on what kind of keys are associated with the user's gestures.

As for claims 3 and 12, Korth teaches a visualization of the actual key function allows the handling of keyboards with multiple shift keys and subgroup display for large characters sets (column 3, lines 1-4) corresponding to displaying keys on the display, a keyboard for musical instruments (column 3, line 11) corresponding to playing sound labels for keys and playing special sound indicators, a video sensor that is used for monitoring the keyboard to generate image data representing positions of an operator's hand with respect with the keys (column 3, lines 55-58) corresponding to displaying image indicators on the display, a camera Fig.1 (2) corresponding to projecting the keyboard to any surface and displaying picture of the keyboard with the user's hand.

As for claim 7, Korth teaches a method of data input using video sensors for monitoring positions of an operator's hand with respect to keys on a virtual keyboard optically produced on a surface.

As for claims 8, 13, and 20, Korth teaches a keyboard needs not to exist physically, a virtual keyboard 3 serves as data or command input device. From the computer side of the interface there need only be a way to detect the fingertip motions of the keyboard operator. The task of the keyboard is to provide information about the available keys and their location, to sense the depression of the key by the operator and to produce some feedback when a key has been touched (column 4, lines 21-29).

As for claim 10, Korth teaches the keyboard needs not to exist physically, a virtual keyboard serves as data or command input device. From the computer side of the interface there need only be a way to detect the fingertip motions of the keyboard operator (column 4, lines 25-29) corresponding to making typing gestures without any real keyboard; a way to detect the fingertip motions of the keyboard operator (column 4, lines 28-29) corresponding to sensing the typing gestures; and a video monitor may be provided to display positions of the operator's hand with respect to the keys (column 4, lines 2-3) corresponding to producing, from the sensed typing gestures, gesture associated textual output.

As for claim 17, Korth teaches a keyboard needs not to exist physically, a virtual keyboard 3 serves as data or command input device. From the computer side of the interface there need only be a way to detect the fingertip motions of the keyboard operator (column 4, lines 25-29) corresponding to means for sensing typing gestures

made without any real keyboard; and a video monitor may be provided to display positions of the operator's hand with respect to the keys (column 4, lines 2-3) corresponding to producing, from the sensed typing gestures, gesture associated textual output.

Claims 4-6, 9, 14-16, and 21-22 are rejected under 35 U.S.C. 103 (a) as being unpatentable over U.S. Patent # 5,767,842 ("Korth") in view of U.S. Patent # 6,407,679 ("Evans et al.") in further view of U.S. Patent # 6,421,453 ("Kanevsky").

As for claims 4, 14-15, and 21-22, Korth teaches a video sensor that is used for monitoring the keyboard to generate image data representing positions of an operator's hand with respect with the keys (column 3, lines 55-58) corresponding to a gesture capturing module that captures gestures through camera sensors. Accordingly Korth teaches all the claimed limitations as recited in claim 4 with the exception of providing a classifier module, an associator module, and an integrator module.

However, Kanevsky et al. teach a classification that involves the differentiation of multiple individuals simultaneously attempting to interact with the system (column 1, lines 50-52); an associated body movements Fig.4 (410); method could be implemented to integrate different sources of information for improved user recognition/verification.

It would have been obvious to utilize the classificatory, the associator, and the integrator as taught by Kanevsky et al. in the optical input of commands disclosed by Korth because this would allow a method for controlling access of an individual to one of a computer.

As for claim 5, Kanevsky et al. teach a speech recognition and natural language understanding (column 11, lines 58-59) corresponding to a language module; speech 411 is an acoustic password that consists of a string of predefined intentionally produced sounds (column 14, lines 35-37) corresponding to a character frequency language; accidental units library Fig.12 (1222) corresponding to a confusable matrix; a classification that involves the differentiation of multiple individuals simultaneously attempting to interact with the system (column 1, lines 50-52) corresponding to a gesture classes probability module; combination of predefined movements 904e may be used to detect stroke ends (column 25, lines 7-8) corresponding to a computation of a probability; pre-storing a predefined sequence of intentional gestures performed by individual during an enrollement session (abstract) corresponding to a generation of lattice; the links associated with the gesture pin are used to find corresponding pre-scored-productions (column 21, lines 60-62) corresponding to finding the more probable sequence of keys from the lattice of key candidate strings.

As for claim 6, Kanevsky et al. teach an accidental units rule 1200c that can be used to check the accidental units so that the accidental units can be either removed from the gesture sequence provided by the user or used to further verify that the intended gesture pin has been performed.

As for claim 9, Kanevsky et al. teach a gesture symbol module Fig.10 (1001).

As for claim 16, Kanevsky et al. teach a training algorithm assigns probabilities to all strings of transitions from the initial state to the final state.

Response to Amendment

Applicant's arguments filed 11-13-2002 have been fully considered but they are not persuasive. The applicant argued that the prior art does not teach classify groups of gestures into classes, and associate each of the classes with one of the keys of the virtual keyboard. Examiner agrees with the applicant that the prior art does not teach classify groups of gestures into classes, and associate each of the classes with one of the keys of the virtual keyboard but has made further search and found a new prior art to overcome the limitation. Evans et al. teach (Fig.1), a glove usable in a virtual environment where each finger has a group of letters associate with one of the keys in the virtual keyboard (column 8, lines 13-30) corresponding to a classify groups of gestures associate each of the classes with one of the keys in the virtual keyboard. Therefore, the rejection is maintained.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 2674

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean Lesperance whose telephone number is (703) 308-6413. The examiner can normally be reached on from Monday to Friday between 8:00AM and 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (703) 305-4709 .

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

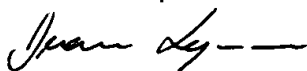
or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Jean Lesperance



Art unit 2674

Date 1-29-2003



RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Application/Control Number: 09/603,980
Art Unit: 2674

Page 9